

60,130-1847; 02MRA0353

IN THE SPECIFICATION

Please make the following changes to the referenced specification paragraphs.

[2] The present invention relates to brake rotors, and in particular to brake rotors for use on vehicles, especially road vehicles, and in particular heavy road vehicles such as trucks and lorries.

[16] The mounting flange 14 includes a plurality of mounting holes 22 (12 holes in this example). The mounting holes 22 are circumferentially and equidistantly spaced and have a pitch circle diameter of B (192 millimeters in this particular example).

[17] The mounting holes 22 have a nominal diameter of 17 millimeters and thus ~~the inner~~ edges of the mounting holes 22 define a circle of diameter C (175 millimeters in this example). The mounting flange 14 further defines a radially inner flange wall 24 in the form of an interrupted circle of diameter D (162 millimeters in this example).

[18] The radially inner flange wall 24 is interrupted by axial recesses in the form of grooves 26 with each groove 26 being positioned circumferentially between adjacent mounting holes 22. Each groove 26 has a substantially semicircular radially outermost end 28 (Figure 2A) with ~~a~~ the center of the semicircle being indicated by reference numeral 30.

[19] The centers 30 define a circle of diameter E (170 millimeters in this particular example). The radius of the semicircular radially outermost end 28 of the grooves is 7-1/2 millimeters in this example, and thus the semicircular radially outermost ends 28 ~~edges~~ of the grooves 26 define a circle of diameter F (185 millimeters in this example). ~~A~~ The radially innermost edge of brake portion 16 is positioned at a diameter G (234 millimeters in this example).

60,130-1847; 02MRA0353

[20] Examination of Figure 2 and the upper half of Figure 3 shows that certain ventilation vanes 18A extend radially inwardly only as far as the radially innermost edge of brake portion 16. However, examination of Figure 2 and the lower part of Figure 3 shows that certain other vanes 18B extend radially inwardly passed the radially innermost edge of brake portion 16 to a diameter H (approximately 192 millimeters in this example), thus forming an inner vane portion 32. It can be seen that inner vane portion 32 projects axially from the mounting flange 14. Furthermore, it would be appreciated that the vanes 18A are circumferentially aligned with an associated groove 26.

[23] Furthermore, a plane defined by face 14B is situated between ~~the~~ planes defined by braking ~~brake~~-faces 16A and 17. Thus mounting flange 14 is offset from, but nevertheless overlaps with, the annular disc 12.

[24] It has been found that by providing the grooves 26 in the position as indicated, the material 34 (see Figure 3) situated between the mounting holes 22 and the radially inner flange wall 24 is subject to lower thermal stresses and hence the likelihood of cracking in this region is significantly reduced.

[25] Certain aspects of the geometry of the mounting flange 14 should be noted. In this example, the mounting hole pitch circle diameter B (192 millimeters in this example) is larger than the groove end center pitch circle diameter E (170 millimeters in this example). Further, the mounting hole pitch circle diameter B (192 millimeters in this example) is larger than the groove radially outer edge circle diameter F (185 millimeters in this example). Also, the groove end center pitch circle diameter E (170 millimeters in this example) is less than the circle diameter C (175 millimeters in this example) defined by the radially innermost portion of the mounting holes 22.

60.130-1847; 02MRA0353

[26] The diameter of the circle F (185 millimeters in this example) defined by the groove radially outermost ends 28 ~~-edges-~~ is larger than the diameter of the circle C (175 millimeters in this example) defined by the radially innermost portion of the mounting holes 22.

[27] The brake rotor 10, and the inner vane portions 32 in particular, are ~~is~~ typically cast using any metal casting method. Although the grooves 26 may also be cast, machining the grooves 26 instead makes it easier to make the radially outer edge circle diameter F ~~to be~~ smaller than the circle H defined by the inner edge of the inner vane portions 32. This allows for machining of the rotor flange without requiring machining of the inner vane portions 32 as well.